UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL CLEANUP

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) COMMENTS DRAFT AVERY LANDING ENGINEERING EVALUATION/COST ANALYSIS REPORT

X. As shown in Exhibit 5 of the EPA document, *Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA* (1993), the Engineering Evaluation/Cost Analysis (EE/CA) document must be revised to include an Executive Summary and to include a subsection titled "Determination of Removal Schedule." For this subsection, insert the following:

> "The general schedule for removal activities, including both the start and completion time for the action, will be subject to negotiation of another ASAOC with the Respondent for conduct of the action itself."

1.0 INTRODUCTION

X. Page 1, Section 1.2, 1st paragraph

The first sentence must be revised to correct the misstatement that a primary objective of the EE/CA is to "select a removal action." The EE/CA will recommend a preferred alternative, and EPA will determine the recommendation action. Further, the recommended alternative may not always be the final alternative selected in the Action Memorandum.

2.0 SITE BACKGROUND

X. Page 4, Section 2.0

Revise this section to address construction of the Chicago, Milwaukee, St. Paul, and Pacific Railroad (Milwaukee Railroad) Avery facility and the demolition and razing of the former facility structures.

X. Page 4, Section 2.1, 4th paragraph

State whether the domestic groundwater supply well located in the western/central portion of the Potlatch property was closed in accordance with all applicable, federal, state, and local requirements.

X. Page 5, Section 2.2.1

Revise this section to address:

a. Purchase of the entire Site by Potlatch in 1980 from the Milwaukee Railroad, and subsequent purchase of the eastern portion by Mr. Bentcik in 1996.

b. Alleged ownership of the northern portion of both the eastern and western properties by the Federal Highway Administration (FHA). (*See* also Section 2.3.4, where the parenthetic reference to the FHA serves no useful purpose whatsoever.)

X. Page 6, Section 2.2.2

Revise this section to:

a. Discuss operation of the railroad including electrification beginning in 1914 and ending in the mid-1970s.

b. Reference the former cleanup activities conducted by Potlatch at the Site.

c. Discuss the demolition of the railroad roundtable and associated maintenance facilities, including who performed demolition and the fate of the demolition debris.

X. Page 6, Section 2.2.3

Revise this section to address:

a. Describe the full spectrum of use and maintenance activities performed by the railroad at the Site, including electric locomotives and potential use of PCBs and cleaning of locomotives by hosing them down.

b. Presence of the 500,000 gallon aboveground storage tank (AST) (and other potential sources of petroleum contamination) and cinder pit in Section 15.

c. Presence of the boiler house, fan house, cinder pit, and many other unknown structures in Section 16.

X. Page 7, Sections 2.3.2

Rename this section title to “Local Geologic Conditions,” and ensure that the surface and subsurface conditions across the site are reported in more detail.

X. Page 8, Section 2.3.4

Revise this section to discuss the spring (and hydrogeology) located in the hillside above the former 500,000 AST with respect to the spring’s potential as a hydrologic boundary.

X. Page 12, Section 2.4

? The Correct the reference to the EPA 2007 removal assessment report which is actually the site-specific sampling plan for that investigation.

X. Page 13, Section 2.5

Revise this section to address on whose behalf the previous removal actions were conducted, and why additional removal actions were/are necessary.

? See also NTC guidance ?

X. Page 13, Section 2.5.2, 1st paragraph

Revise this section to specify the quantity of LNAPL that was recovered and sent off-site.

X. Page 13, Section 2.5.2, 2nd paragraph

Revise this section to discuss as-built information for the containment wall versus "Proposed Containment Wall Location," as shown in Figure 2-4. Further, identify and address potential design or installation deficiencies.

X. Page 14, Section 2.5.2, 1st paragraph

Revise this section to address the potential for LNAPL to also bypass the barrier horizontally (i.e., to the west/downgradient).

X. Page 14, Section 2.5.2, 3rd paragraph

Revise this section to clarify the following ambiguity: floating product was observed seeping into the river in 2005; however, Section 2.5.3 states that IDEQ recommended the use of oil absorbent booms to maintain LNAPL seeps in 2002 after LNAPL was observed after removal actions were completed in 2000.

X. Page 14, Section 2.5.3

Revise this section to accurately represent placement of oil absorbent booms (i.e., placement was intermittent as observed by EPA and IDEQ, and not known to be subject to comprehensive containment nor an agreed to schedule).

3.0 EE/CA INVESTIGATION

X. Page 15, Section 3.0

Revise this section to:

a. Begin with a comprehensive and thorough narrative summary of existing data from previous investigations regarding the source, nature, and extent of contamination, and then expand into the need for the current investigation. For example, Section 3.1.3 states that soil borings were advanced in the vicinity of the former 500,000-gallon fuel oil tank—the reason for the focus in this area should be discussed in the introduction to the investigation.

b. Include the estimated volume of contaminated material mentioned in either Section 3 or 4 (The first mention of any quantity is 106,000 tons, which is introduced in Section 8.3.) The estimated amount of material should be presented relative to the field activities and the nature and extent of contamination, and the rationale for any estimate should be discussed.

X. Pages 15, 16, and 17, Sections 3.1.1 and 3.1.2

Revise these sections to address the presence of the waste disposal pits that were encountered in many areas during the 2009 investigation. The waste disposal pits included household garbage, prior remediation equipment (oil booms), and burned items. As part of this discussion, address dioxin/furans as potential COPCs.

X. Page 17, Section 3.1.2, 2nd paragraph

Resolve the inconsistency inherent with the “wedge of black soil” observed across the site at approximately 2 feet below ground surface and the statement presented later that the upper 3 feet of soil appeared to be clean across the site (see page 98, Clean Soils).

X. Page 17, Section 3.1.2, 3rd paragraph

Given the presence of asphaltic particles in some samples and that these particles presented problems with the soil washing, address the possibility that asphalt (or heavy oil that became asphalt-like) was applied across the rail lines or other areas for dust suppression and/or insect avoidance.

X. Page 19, Section 3.1.5.1, 3rd paragraph

Resolve the inconsistency between the text which states that sample GTP3-5 contained PCBs, and the results presented in Table 3 which indicate that PCBs were not detected. Also, note in Table 3-1, one result exceeds the screening level but is not indicated with boldface type.

X. Page 21, Section 3.2

? ? In the past and in other sections of the report, Potlatch/Golder has referred to the Bentcik property as the "eastern portion [or half] of the site" (cf. Section 2.1, Page 4), and the Potlatch property as the “western half of the site.” However, the existing monitoring wells are located on both Potlatch and Bentcik properties, which they describe here as the “eastern portion of the site.” They need to be more careful with the

use of terms like "eastern" or "western," because some times they refer to property ownership and sometimes they refer to the geographic areas of the site (regardless of property ownership).

X. Page 22, Section 3.2.2

Revise to address the thickness of product measured in new and existing groundwater monitoring wells and to compare such data to historic data.

X. Page 27, Section 3.2.9.1, last paragraph

? ? ? Assessing hydraulic conductivities from slug testing likely reveals little more than the properties of the filterpack surrounding a well. Thus, clarify why Inferring aquifer property potentials requires a constant rate test.

X. Page 28, Section 3.3

Revise the discussion of the near shore investigation to take into account the past historical shoreline location and that the up-river background sampling locations do not reflect ideal background locations because of the presence of the historic rail line connecting the Avery Landing site and the town of Avery.

X. Page 30, Section 3.3.1.1

? ? ? Is the oil staining observed on the rocks 4-5 feet from the river bank caused by petroleum seeps from the site?

X. Page 31, Section 3.3.1.2, 5th sentence

Delete this entire sentence. The Avery Landing site is a former railroad roundtable and maintenance facility for an electric railroad, and the conclusion that PCBs in sediment may not be related to historic site lacks any merit whatsoever. Aroclor 1260 was detected in subsurface soils, LNAPL, and river sediment. As discussed in Section 2.2.3, the likely sources are the Avery Landing railroad facility and/or or related power station with PCBs in the town of Avery other than some nebulous upstream, off-site source.

4.0 NATURE & EXTENT OF POTENTIAL CONTAMINANTS

X. ? ? ? Page 45, Section 4.0

1. Sections 4 and 6: Soil, sediment and groundwater should be divided into separate operable units (OUs) within Section 4. The removal action objectives (RAOs) would then address each OU, as appropriate. ??? no can be media or operable unit specific see RI/FS p. 4-3

a. Revise this section to include a discussion of the original sources of petroleum, PCB, and metals contamination.

b. 1st paragraph, 1st sentence. This sentence is inaccurate and must be revised. Data gaps exist where the extent of petroleum contamination has not been determined, including along highway 50 both east and west of the historic 50,000 gallon oil tank, west of TP-8, south of TP-2, and TP-3, and the area near TP-5.

c. ? ? ? 1st paragraph, 4th sentence. This sentence must be revised to list the same COPCs for soil, sediment, groundwater, and surface water, whereby if any of these mediums contain detectable, reproducible COPCs above an action level, then all the mediums have the potential to contain COPCs and those that have been detected above an action level need to remain as COPCs for all affected media. The preliminary list of COPCs may not have been identified in certain media at or above action levels because we have not investigated thoroughly across the site.

d. ? ? ? The samples listed as coming from upgradient "background" locations are probably not representative of true background conditions, because the locations are still within the proximity of the majority of contaminated media. True background samples would come from locations across the river, or from upstream of the town of Avery.

X. Page 46, Section 4.1.1

Resolve the contradiction between the following statement:

> "The plume delineations were based on observations of free product in test pits and soil borings and soil sample analytical results. The difference between the plume delineation made by Hart Crowser in 2000 versus E & E in 2007 is that the plume may have grown larger by 2007 and may have extended further down-gradient to the west and southwest."

And, the statement found in Section 4.5 (page 62):

> "The 2007 E & E report concludes that the area of the free product plume has grown to the west and southwest since the 2000 Hart Crowser delineation. However, Golder disputes this conclusion because of the data gaps that remained for the western side of the Site after the 2000, 2006, and 2007 investigations."

START's observation in 2007 that the plume may have grown larger from 2000 to 2007 is based on the results of the 2000 Hart Crowser investigation (performed on behalf of

Potlatch), which claimed to delineate the western extent of the plume (e.g., the Hart Crowser report did not identify the western edge of the plume as a data gap, as implied by the draft EE/CA).

X. Page 49, Section 4.1.4

An analyte that exceeds a soil screening level based on protection of groundwater cannot be eliminated from further consideration if the analyte also does not exceed a groundwater screening level. Whether or not it exceeds a groundwater criterion is irrelevant if it exceeds the soil level, particularly when the soil and groundwater samples in question are not necessarily co-located. The lack of an exceedance in groundwater does not indicate that there is no potential for leaching of chemicals from soil to groundwater now or in the future. Thus, (Steve – what is the concluding statement?)

X. Page 49, Section 4.1.4; page 54, Section 4.2.3; page 57, Section 4.3.3

Revise these sections to include PCBs as a COPC in soil, sediment, and groundwater, not just as a component of the LNAPL. The argument that the absence of PCBs from the LNAPL along the near shore indicates that PCBs are not being discharged to the St. Joe River by on-site courses is not supported given sustained, historic railroad electrification operations on-site (beginning in 1974 and continuing through the mid-1970s), and spatial and temporal variability which affect concentrations from one location to another and from the time of day or season of the year.

X. Page 50, Section 4.1.4.2

In general, the discussion of inorganic analytes lacks clear rationale for elimination of all metals from further consideration, and must be revised to address the following:

- Background metals concentrations from Coeur d'Alene Basin and Washington state are used to eliminate metals as COPCs; however, no discussion of why these two background datasets are appropriate and relevant to the Site is provided (e.g., similar soil/sediment/groundwater physical and chemical characteristics, sampled depths, sample collection methods, etc) nor are these background datasets provided in tables for review. Values presented within the text were compared to values presented in the Coeur d'Alene Basin RI/FS, located online. No errors were noted.

- Comparison of mean Site and background concentrations is qualitative or semi-quantitative (simple comparison of means or commentary that concentrations are "relatively consistent" across the site). Use of an upper confidence limit of mean Site concentrations and use of statistical tools would provide a more appropriate means of comparison. Recommend use of EPA's ProUCL software to perform quantitative comparison to background levels.

- Overall discussion lacks clarity. For example, the following statement "*Because of the consistency of detections and the lack of researched regional background levels, it is reasoned that vanadium concentrations are within the normal range of Site specific*

background concentrations and this metal is not considered a soil COPC." (Pg. 51) is illogical and does not justify elimination of an analyte from further consideration. On the contrary, the lack of a background dataset would suggest that an analyte should be retained for further evaluation if it exceeds a screening level and certainly does not suggest that the analyte is present at background levels.

X. Page 52, Section 4.1.4.3, 4th paragraph

Revise to include total xylenes as a COPC. An analyte present at "mid-depth" that exceeds a soil screening level cannot be eliminated from further consideration because of its depth. It is possible that future redevelopment activities could bring this analyte to the surface where it may be contacted by human and ecological receptors.

X. Page 56, Section 4.3.1, 2nd paragraph

Delete this entire paragraph. The discussion about potential contamination from LNAPL in EPA samples during the 2007 removal assessment is disingenuous, because it ignores comments from EPA in response to similar allegations that were made during the review of planning documents.

X. Page 58, Section 4.3.3.2, 2nd paragraph, and page 68, Section 4.7.4

If "*an anaerobic groundwater condition caused by the presence of petroleum hydrocarbons*" is given as a rationale for eliminating analytes from further consideration, this section must be revised to include a discussion of this anaerobic condition and resulting chemical reactions needs to be provided in addition to data supporting the assumption that anaerobic conditions are present.

X. Page 60, Section 4.3.4.1, and Table 4-1

Clarify why thallium detected at concentrations above water quality standards in several wells is considered a COPC for the groundwater-to-surface water pathway but not for groundwater.

X. Page 61, Section 4.4.3; page 64, Section 4.6.4; page 4.7.2, Section 4.7.2

The statement that negligible detections of analytes in surface water are evidence that groundwater is not discharging to surface water is not supported by the information provided, and must be revised accordingly. The presence of PAHs in the shoreline and near-shore sediments suggests that both groundwater and LNAPL are discharging to the river. The reason for low detections in surface water are more likely due to the sampling method (single/discrete grab samples) and the fact that PAHs are more likely to partition to organic matter in sediment and suspended particulates than to surface water.

X. Page 69, Sections 4.8.1,

Where found for antimony, iron, and manganese, delete those sentences referring to "Because . . . is a naturally occurring element, it will persist forever in the environment."

X. Page 71, Section 4.8.2, 1st paragraph, 1st sentence

Revise to delete this sentence. DNAPLs will remain as a potential site contaminant, and is a data gap due to the past use of bunker C fuel.

5.0 STREAMLINED RISK ASSESSMENT

Methodology for risk calculations is not consistent with EPA risk assessment guidance and risks do not adequately address potential exposures to receptors at the Site. There is low confidence in the conclusions provided in Section 6.1.1 due to incomplete characterization of risks for future residents to all relevant exposure media and incomplete characterization of risks to ecological receptors for contact with sediment.

X. Page 77, Section 5.2

Rename this section "Streamlined Risk Evaluation.'

X. Page 77, Section 5.2.1

The maximum depth to which humans and burrowing animals are expected to access subsurface soils should be defined to support depth of soils data evaluated in risk evaluations. Also, the potential for bringing subsurface soils to the surface during future grading and excavation associated with site redevelopment should be addressed.

X. Page 78, 5.2.2.1, Subsections I and II; page 79, Section 5.2.2.3; and page 84, Section 6.1.1.1

General statements are made regarding risks to other receptor populations (part-time residents, future residents, recreational users/trespassers, workers, etc) that are not supported by quantitative evaluation of these alternative receptors. Thus, this section must be revised to provide a more thorough discussion (qualitative or semi-quantitative) to support these statements.

X. Page 79, 5.2.2.2 and 5.2.2.3; page 80, Section 5.2.2.4

No risks were calculated for ingestion of groundwater (future scenario), contact with surface water and sediment, or contact with LNAPL; therefore, the statements regarding risks associated with exposure to groundwater, surface water, and LNAPL are not supported and must be revised, accordingly.

X. Page 82, Section 5.3.2

Data gaps or uncertainties regarding the home range of ecological receptors and likelihood of ecological receptors drinking from the site shoreline are not justifiable reasons to conclude that "LNAPL is not expected to pose a significant and unacceptable risk," particularly when risks were not even quantified. Thus, this section must be revised accordingly.

X. Page 83, Section 5.3.3.1

The statement that the LNAPL "may be considered a nuisance and objectionable" and associated discussion of ecological receptor contact with LNAPL completely ignores the potential for toxicity of LNAPL to trout. Thus, this section must be revised accordingly.

X. Page 83, Section 5.3.3.2, 1st paragraph, last sentence

Delete the last sentence which is not supported. The Milwaukee Railroad operated on the site from 1907 to 1977, and operations extended from the site to the town of Avery which is located approximately 1 mile upstream.

6.0 REMOVAL ACTION OBJECTIVES

X. Page 84, Section 6.0 and page 85, Section 6.2

Based on the preceding Section 4 and Section 5 comments, the RAOs must be revised to consist of medium-specific or operable unit-specific goals for protecting human health and the environment. The objectives should be as specific as possible but not so specific that the range of alternatives that can be developed is unduly limited. Further, the RAOs should specify: the contaminants of concern, exposure route(s) and receptor(s), and an acceptable contaminant level or range of levels for each exposure route.

X. Page 84, Section 6.1.1.1, 6.1.1.2

The summary of human and ecological risks does not address sediment contamination and exceedance of screening levels discussed previously in Section 5.3. Thus, this section must be revised, accordingly.

X. Page 85, Section 6.1.1.2

? ? ? Revise to address . . . The emphasis on "aquatic organisms" suggests that that waterfowl and other avian species were not considered in the ecological risk assessment.

7.0 IDENTIFICATION AND SCREENING OF REMOVAL TECHNOLOGIES

X. Page 86, Section 7.0

This section must be revised to address the technology alternatives identified in the AOC SOW, including but not limited to containment, groundwater treatment, *in-situ* and *ex-situ* solidification/stabilization, land application, soil washing, thermal desorption, and off-site disposal. Further, wherever practicable, the alternatives selection process should consider the CERCLA preference for treatment over conventional or land disposal approaches to address the principal threats at the Site.

8.0 ASSEMBLY AND SCREENING OF REMOVAL ALTERNATIVES

X. Page 88, Section 8.1.2

None of the removal action alternatives include sediment removal, even though one of the RAOs is to reduce ecological direct contact and ingestion exposure to impacted sediments. A poor argument is provided as to why sediment should be left as-is. In addition, based on comments for Sections 4 and 5, the EE/CA may not have adequately evaluated the risk of sediment contamination to human and ecological receptors.

X. Page 88, Section 8.1.2

This section states, *"While we do not know with certainty, the apparent problem with this system is that the plastic liner used for containment has gaps (particularly at the bottom) through which LNAPL can move."* The author should indicate why this is likely to be the problem. Two possibilities are presented in Section 2.5.2, and Sections 3.3.2 and 4.7.3 discuss LNAPL seeping from underneath geotextile fabric at RS-3. Section 4.7.3 states, *"…observations made during reconnaissance activities in 2009 indicated LNAPL seeping from underneath a geotextile fabric that terminates at the shoreline. It is suspected that this geotextile fabric is one component of the impermeable wall installed by Hart Crowser in 2000."* As stated in Comment 3, design and as-built information should be reviewed and used in support of this hypothesis.

X. Page 90, Section 8.1.5

In place of sediment removal, natural attenuation is suggested in this section. Even if natural attenuation were acceptable, a study would be required to prove that the process would be applicable for the site contamination. The implementation of this study and the associated costs are not included in the removal action alternatives description or analysis. The EE/CA confuses "Do Nothing," "Natural Attenuation," and proceeding with the status quo. As noted below, "Do Nothing" means exactly what it implies. "Natural Attenuation" means a site model has been developed that indicates that contamination will decrease over time. Periodic sampling is performed to verify that the model is accurately predicting the attenuation. If it is not, then other removal/remedial measures are implemented. The status quo, replacing oil booms, is

nether “Do Nothing” nor “Natural Attenuation”. Historically, “Natural Attenuation” has been used for groundwater plumes where the plumes have not extended beyond the RP’s property. Since the plume at this site is contaminating surface water and the sediment on the State of Idaho’s property (the river bottom), “Natural Attenuation” does not seem appropriate.

X. Page 90, Sections 8.2.1 and 8.2.2

No Further Action (Alternative A) should mean absolutely nothing is done at the site, and the costs would be $0. Institutional Controls (Alternative B) should be referred to as “Institutional Controls and Continued Use of Current Containment and LNAPL Recovery System.”

X. Page 91, Section 8.2.2

Institutional controls such as placing booms in the river and collecting LNAPL are presented as if they have been successful in the past. However, they have not been successful, which is the reason for the current non-time critical removal action.

X. Page 92, Section 8.2.5

Revise this section to clearly define “hot spot,” and to discuss how would the “observational approach” determine if contaminated soils exist below the groundwater table.

SECTION 9.0 DESCRIPTIONS OF THE ALTERNATIVES

X. Page 94, Section 9

The cleanup standards are listed as part of the RAOs in Section 6. Assuming these cleanup levels adequately address the site risk to humans and ecological receptors, they should be used to develop areas and volumes that would be used in the cost evaluation for the removal action alternatives. The EE/CA should include a figure depicting the areas to be addressed by the removal action based on the RAOs and cleanup levels (for example, see Comment 51). Furthermore, the volume calculations associated with these areas should be presented. These volumes would be used in the cost estimates as part of the removal action alternatives evaluation.

X. Page 96, Section 9.1.6

A clean soil cover is included for Alternatives C through F over areas where “contaminated soil remains after completion of removal actions.” This apparently addresses RAO 1, defined in Section 6: *“Reduce exposure of potential future full-time residents to contaminated near-surface soils via direct contact and ingestion pathways. The COCs for surface soil are carcinogenic PAHs.”* These contaminated areas where a soil cover is required should be depicted in a figure.

X. Page 96, Section 9.1.6

The streamlined risk evaluation may not have given adequate consideration to burrowing terrestrial wildlife (see Alma's Comment 2-7). Upon reevaluation of the risk of soil contamination to ecological receptors, a critter layer (constructed of 4-inch minus rock or similar material to prevent exposure to underlying soils) may be required beneath the soil cap under Alternatives C through F.

X. Page 99, Section 9.1.8

This is the first mention of buried trash, although debris was briefly mentioned in Section 2.3.2 (p. 7). Please refer to Comment 19.

X. Page 104, Section 9.2.8 (p. 104)

"*Institutional controls would not be required in this alternative because, upon completion of the removal action, RAOs would be achieved. Because no contamination above cleanup criteria would remain on the Site after completion of this alternative, it has been assumed that no long-term maintenance and monitoring would be required.*" Some type of monitoring and site control to determine that this removal alternative (Alternative G – Treatment of the Entire LNAPL Plume Area) achieved the RAOs. Also, it is highly unlikely that it will practicable to remove all contaminated material.

SECTION 10 - DETAILED EVALUATION OF ALTERNATIVES

X. Page 106, Section 10.1.1

The list of RAOs needs to include reduction of ecological exposure to LNAPL migration to the river. Not all alternatives prevent releases of LNAPL to the river, like natural attenuation and institutional controls.

X. Page 113, Section 10.3

Overall, the total costs for the removal action alternatives appear relatively reasonable. However, the volumes used in the cost analysis (that should have been calculated as described in Comment 49) are not discussed. Furthermore, the calculated quantities (for materials, etc.) should be described in the assumptions for each cost table. Only a few assumptions were discussed in the text under each alternative in Section 9. There is no way for the reader to correlate the quantities used in the cost tables (Tables 10-2 through Table 10-9) with calculated contamination volumes, or assumptions made.

X. Page 113, Section 10.3

This section refers to Appendix L for cost details in addition to the cost tables (Tables 10-2 through 10-9). The cost tables present no detail at all, and Appendix L provides unit costs that were used and provides sources for the unit costs. Appendix L does not provide any "detail." Most of the unit costs provide a source of "Estimate," and the "Item" column provides little information describing what exactly is included in that unit

cost. Not only is the reader unable to decipher what the unit costs include, but little correlation is provided within the cost tables to enable the reader to verify which unit costs were used from Appendix L. A spot check of the cost tables revealed that some unit costs are not provided in Appendix L, and many of the line items in the cost tables do not match the line items in Appendix L. Either a numbering system would be helpful for the correlation of unit costs from Appendix L with the cost tables, or the appropriate information from Appendix L should be included in each cost table. In addition, more detail is needed to indicate what exactly is included in the unit costs, and "Estimate" as a source for unit costs in Appendix L should be defined (e.g., is it based on professional judgment?).

X. Page 113, Section 104

The recommendation of Alternative B (Institutional Controls) is surprising. Not only may the deficiencies identified for Sections 4 and 5 identify additional site risks than those that are currently taken into account in the RAOs, but institutional controls are usually meant to be implemented in addition to removal actions, not to stand alone. Alternative B does not meet the criterion of effectiveness adequately enough to outweigh the lower cost. At the least, Alternative C should be implemented with the possibility that the system could be expanded if more of the existing containment system were to fail in the future (this possibility is mentioned in Section 8.1.2, p. 88).

X. Page 113, Section 10.4 (p. 113): The statements made in the last paragraph of this section are

TABLES

TABLE 7-1 - IDENTIFICATION OF REMEDIATION TECHNOLOGIES

X. The *Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA* (1993), clearly states that the EE/CA should identify and assess a limited number of alternatives appropriate for addressing the RAOs. Thus, revise this table to:

- Delineate between medium-specific or operable unit-specific general response actions.
- Limit columns to removal action alternatives, treatment technology, process options, description, and screening comments. Further, the screening comments should be void of subjective statements lacking merit.

X. Prepare a separate table presenting an analysis and comparative analysis of the removal action alternatives.

X. Rename the table “Identification of Removal Action Alternatives.”

X. Revise the table to include “No Action” as a general response action.

FIGURES

X. Figure 2-1, Historical Railroad Facility Layout

Figure 2-1 shows the historical layout of the railroad workings at the Avery Landing site, but the depiction of the shoreline appears to be inaccurate. Examining the black and white historical railroad sketch shows the St. Joe shoreline much closer to the edge of the roundhouse and the buildings west of the roundhouse.

X. Figure 5-1, Conceptual Site Model for Human and Ecological Risk Evaluation

a. All pathways for off-site residents are incomplete yet no explanation is provided. If no off-site residents are present, then this should be stated to support this assumption (particularly to eliminate the inhalation of wind-blown dust pathway).

b. Contact with groundwater is listed as an incomplete exposure pathway for all receptor populations except the resident. However, groundwater may be used for irrigation, in which case all receptors (residents, trespassers/recreational users, construction workers, and/or ecological receptors) may contact COPCs in groundwater. Also, future construction workers may contact shallow groundwater while performing intrusive activities (laying utilities, etc).

c. Fugitive dust should be considered a potentially complete pathway for ecological receptors. While it may not be quantified in the risk evaluation, it is certainly possible for receptors to inhale resuspended dust.

d. The CSM indicates that groundwater migrates to surface water and seep water (independent of LNAPL), which contradicts discussion of groundwater and LNAPL migration to surface water in text.

e. Ingestion of aquatic organisms is limited to on-site residents and recreational users. Even if this pathway is not quantified in the risk evaluation, it is also a potentially complete pathway for terrestrial wildlife and aquatic species.

f. Incidental ingestion of sediment should be depicted as a potentially complete pathway for terrestrial wildlife.

g. Incidental ingestion of soil is a potentially complete pathway for burrowing terrestrial wildlife; discuss the maximum depth at which contamination is found and maximum depth to which burrowing animals are expected.

h. Ingestion of and dermal contact with surface water are complete exposure pathways for terrestrial wildlife, but are listed as insignificant and incomplete, respectively, in the CSM.

APPENDICES

APPENDIX C – LABORATORY ANALYTICAL REPORTS & DATA VALIDATION

X. Minor errors were noted in screening levels for metals (National Primary Drinking Water Standards and EPA Regional Screening Levels). In each case, the values used in the COPC screening were lower, or more health-protective, than the correct values.

X. Sediment and surface water screening levels for total PCBs were used to screen Aroclor mixtures. Recommend using screening levels for Aroclors or using analytical results for total PCBs.

APPENDIX H – PERTINENT FEDERAL AND STATE LAWS AND REGULATIONS

X. Revise to include the Oil Pollution Prevention regulations found at 40 C.F.R. Part 112 (Spill Prevention, Control, and Countermeasure [SPCC] Rule).

APPENDIX I – HUMAN HEALTH RISK EVALUATION CALCULATIONS

X. Table I-1, I-2: Idaho's Risk Evaluation Manual (REM) provides some exposure assumptions that are inconsistent with and in some cases less health-protective than EPA risk assessment guidance. For example, the REM provides an exposure frequency (EF) of 270 day/yr and exposure duration (ED) of 15 years whereas EPA recommends an EF of 350 day/yr and ED of 30 years for residents, respectively. Also, recommended skin surface area values and dermal absorption fraction from soil are slightly lower in the REM compared to EPA guidance. Alternatively, the REM assumptions are more conservative for direct contact with soil (adult and child adherence factors of 0.3 and 1.0 mg/cm^2-day, respectively) than EPA guidance (0.07 and 0.2 mg/cm^2-day, respectively).

X. Table I-2: The table shows an error in the inhalation rate used for adults for risks associated with Sample ESB-04-SB 03 and ESB-04-SB 07. A value of 1.3 m^3/kg is recommended by Idaho's REM but a value of 1.1 m^3/kg (child value) was used. This is expected to slightly underestimate risks for inhalation exposure to those two samples. Inhalation risks are negligible and so this error likely does not have an affect on overall risk results.

X. Table I-1, I-2: A particulate emission factor (PEF) of 8E+08 m^3/kg was used but no explanation is provided for how this value was derived. EPA's default PEF used in developing the RSLs is 4.63E+09 m^3/kg.

X. Table I-1, I-2: Idaho's REM methods for evaluation of inhalation risks/hazards are inconsistent with EPA's methods. EPA recommends using a reference concentration (RfC) for inhalation exposures to noncarcinogenic chemicals and an inhalation unit risk factor (URF) for exposures to carcinogenic chemicals. Instead, Idaho uses simple route-to-route extrapolation of the oral RfD and cancer slope factor (CSF). Use of appropriate toxicity values would change risk results, though the differences are likely negligible.

X. Table I-1 and I-2: The tables include inhalation URFs for noncarcinogenic chemicals, when this parameter is used only for carcinogenic chemicals. It is not clear what the values that are currently listed as noncarcinogenic inhalation URFs pertain to. This makes it difficult to determine what values were used in estimating risks. The appropriate toxicity values should include: oral CSF and inhalation URF for the cancer risk evaluation and oral RfD and inhalation RfC for the noncancer hazard evaluation.

X. Table I-1, I-2: The cancer risks for adults do not include exposures during childhood, as dictated in EPA risk assessment guidance.